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FIG. 1

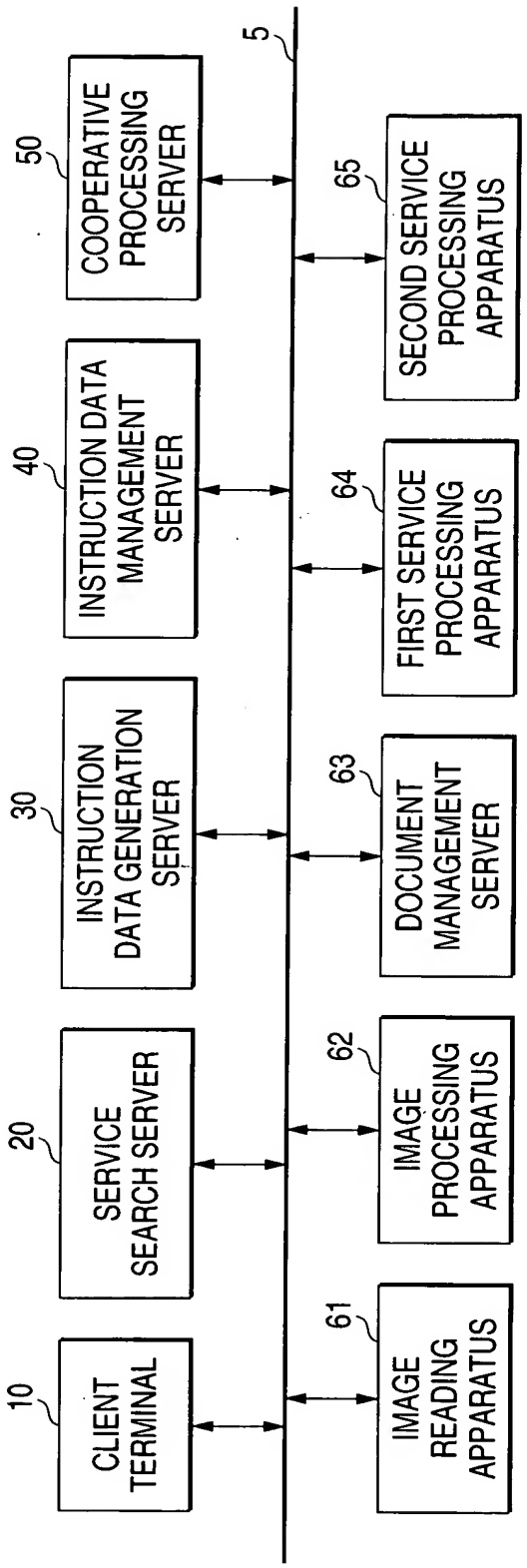

FIG. 2

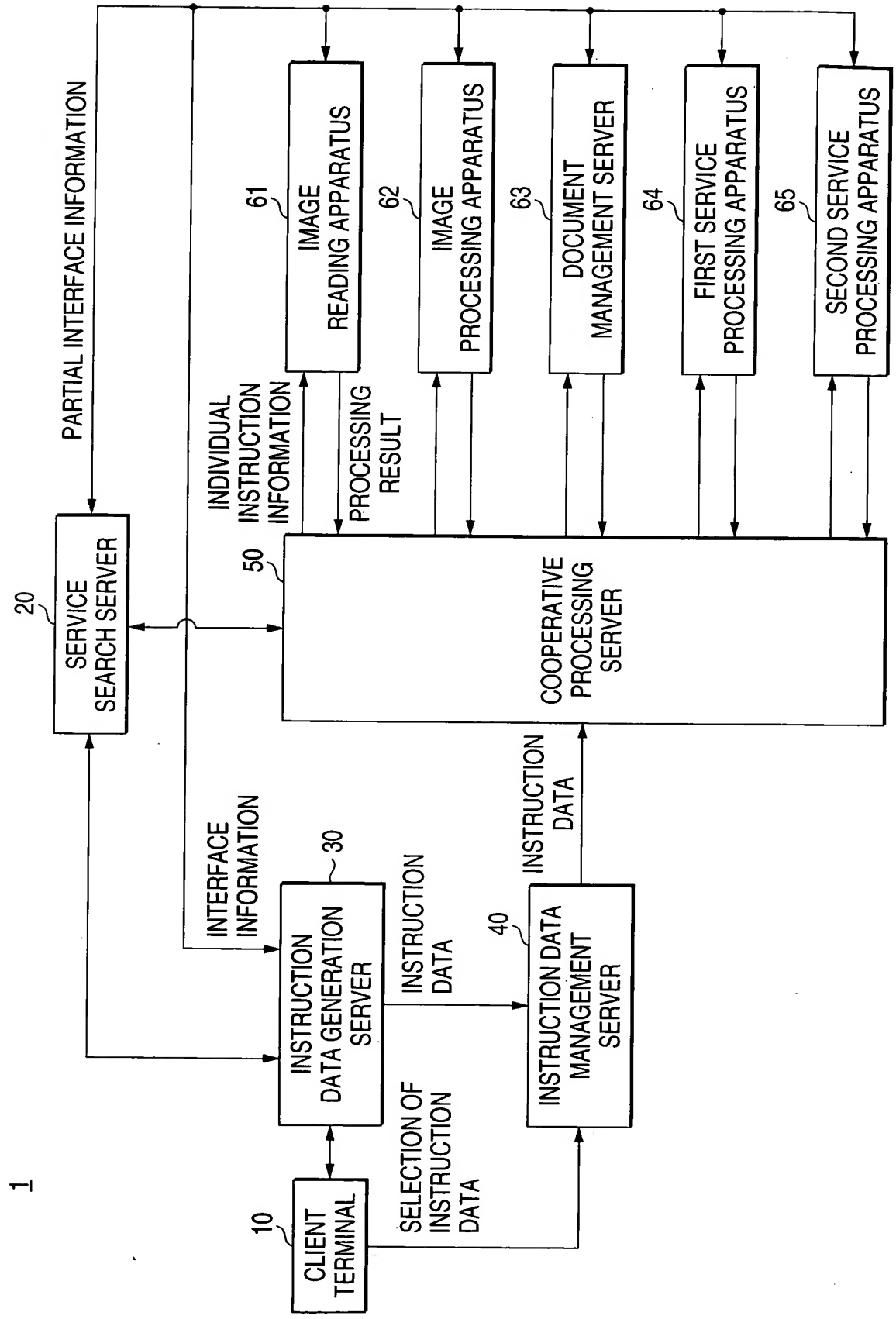
1
10
CLIENT TERMINAL
20
SERVICE SEARCH SERVER
30
INSTRUCTION DATA GENERATION SERVER
40
INSTRUCTION DATA MANAGEMENT SERVER
50
COOPERATIVE PROCESSING SERVER
61
IMAGE READING APPARATUS
62
IMAGE PROCESSING APPARATUS
63
DOCUMENT MANAGEMENT SERVER
64
FIRST SERVICE PROCESSING APPARATUS
65
SECOND SERVICE PROCESSING APPARATUS
PARTIAL INTERFACE INFORMATION
INTERFACE INFORMATION
INDIVIDUAL INSTRUCTION INFORMATION
PROCESSING RESULT
INSTRUCTION DATA
INSTRUCTION DATA
SELECTION OF INSTRUCTION DATA

FIG. 3

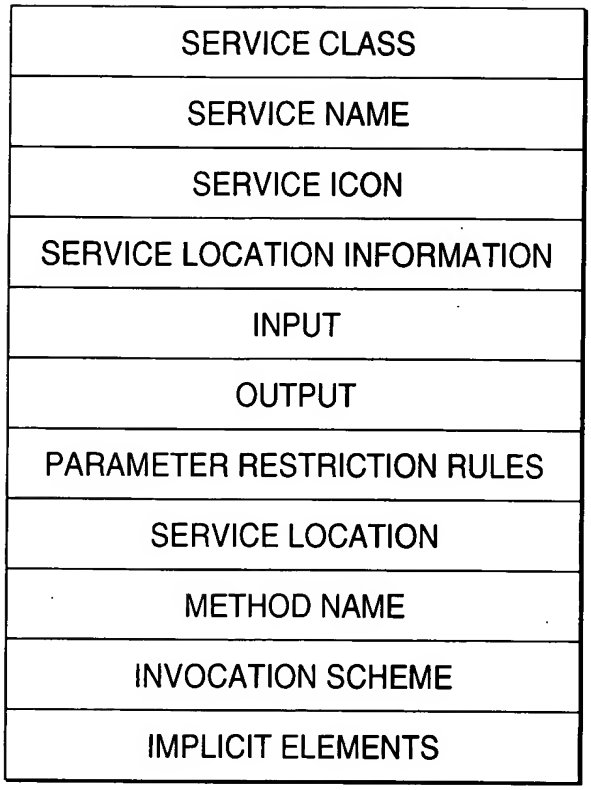
SERVICE CLASS
SERVICE NAME
SERVICE ICON
SERVICE LOCATION INFORMATION
INPUT
OUTPUT
PARAMETER RESTRICTION RULES
SERVICE LOCATION
METHOD NAME
INVOCATION SCHEME
IMPLICIT ELEMENTS

FIG. 4

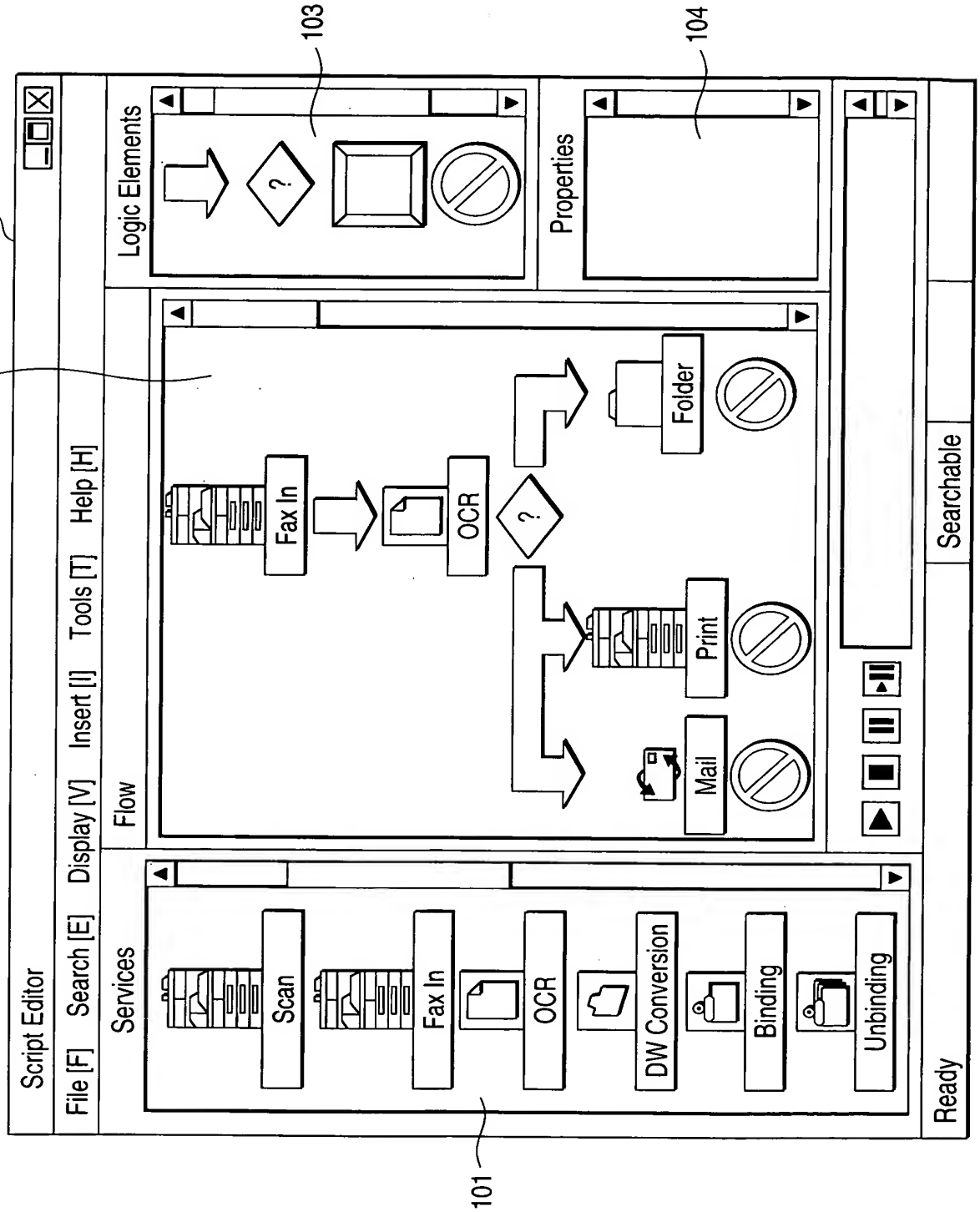
100
102
103
104
101
Script Editor
File [F]
Search [E]
Display [V]
Insert [I]
Tools [T]
Help [H]
Services
Scan
Fax In
OCR
DW Conversion
Binding
Unbinding
Flow
Fax In
OCR
Folder
Print
Mail
Logic Elements
Properties
Searchable
Ready

FIG. 5

SERVICE CLASS
SERVICE NAME
SERVICE ICON
SERVICE LOCATION INFORMATION
INPUT
OUTPUT
PARAMETER RESTRICTION RULES
SERVICE LOCATION
METHOD NAME
INVOCATION SCHEME
IMPLICIT ELEMENTS
FLOW (INVOKE, MAP, METHOD) (CONTROL STRUCTURE, LOGICAL OPERATIONS)

FIG. 6

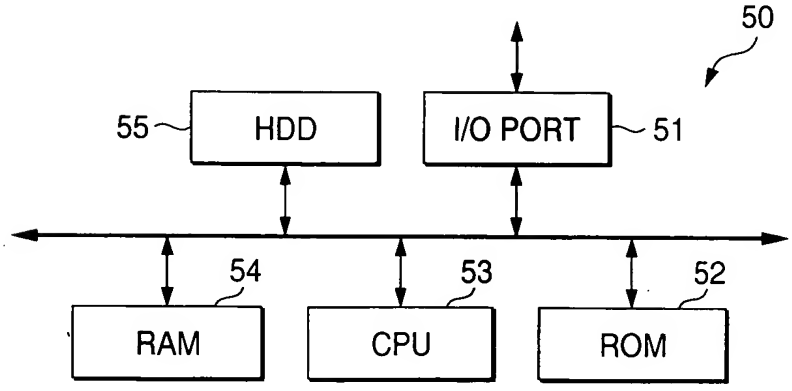

FIG. 7

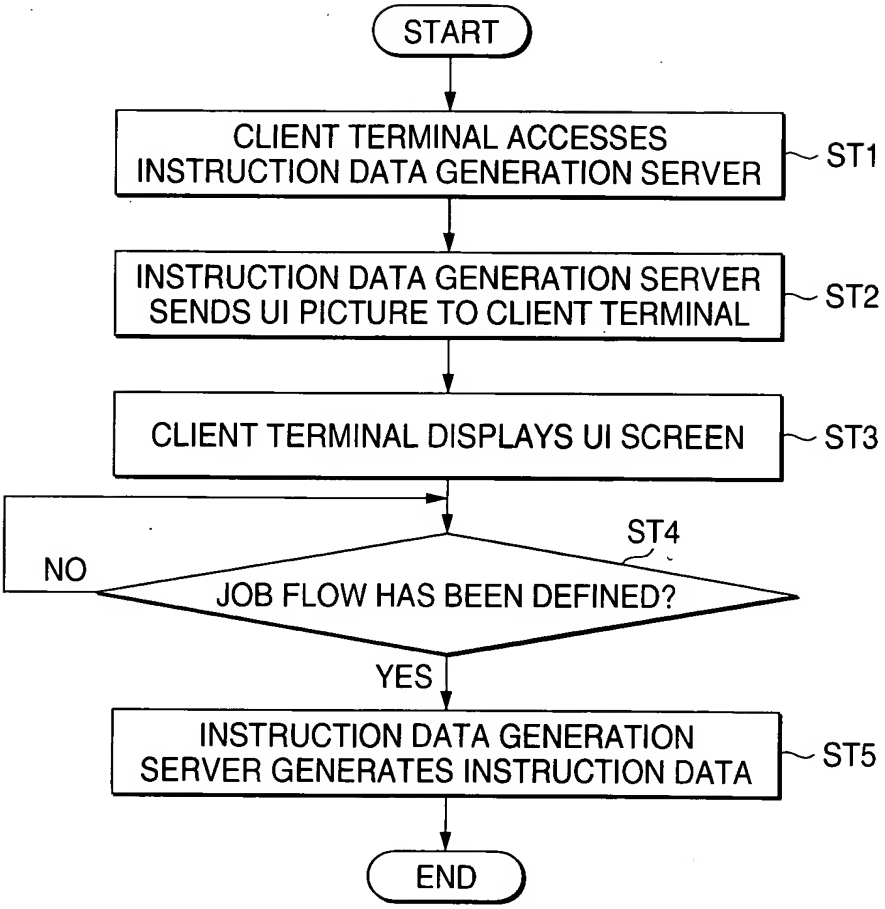
START
CLIENT TERMINAL ACCESSES INSTRUCTION DATA GENERATION SERVER
ST1
INSTRUCTION DATA GENERATION SERVER SENDS UI PICTURE TO CLIENT TERMINAL
ST2
CLIENT TERMINAL DISPLAYS UI SCREEN
ST3
ST4
NO
JOB FLOW HAS BEEN DEFINED?
YES
INSTRUCTION DATA GENERATION SERVER GENERATES INSTRUCTION DATA
ST5
END

FIG. 8

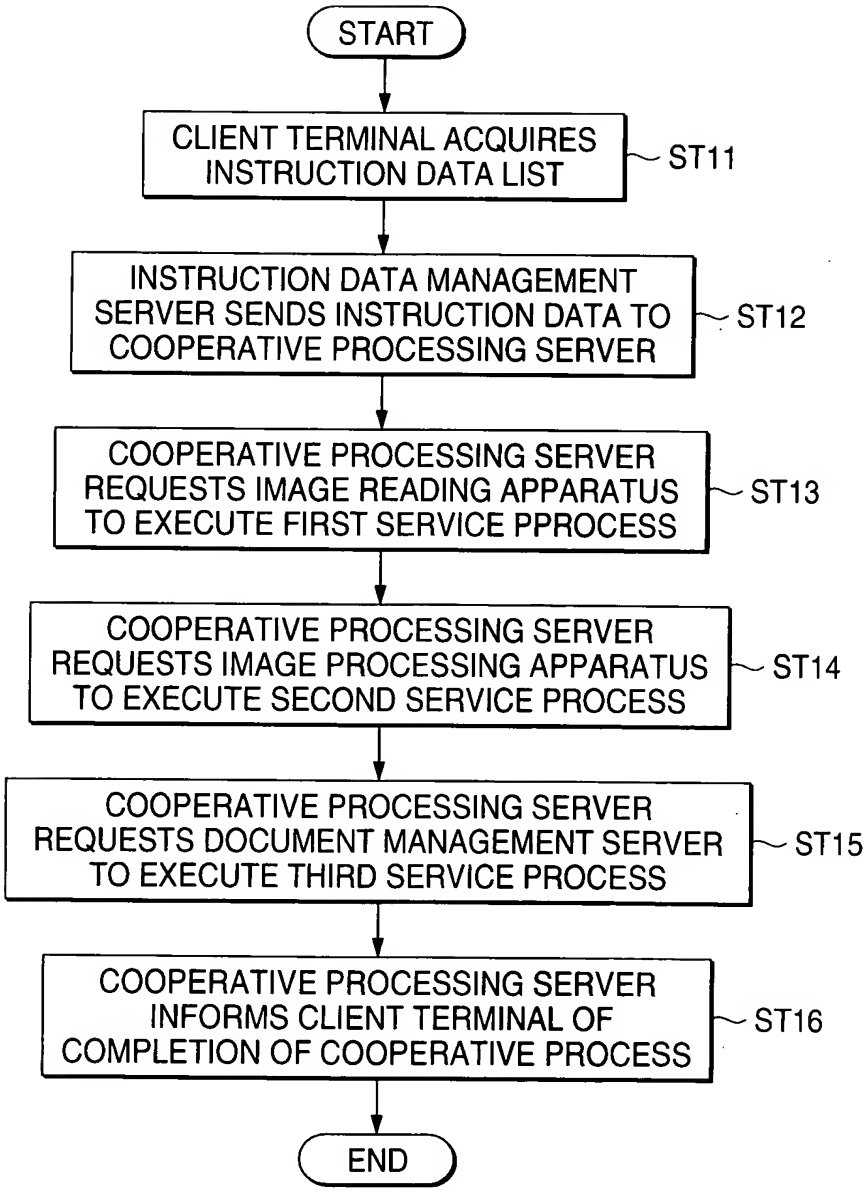
START
CLIENT TERMINAL ACQUIRES INSTRUCTION DATA LIST
ST11
INSTRUCTION DATA MANAGEMENT SERVER SENDS INSTRUCTION DATA TO COOPERATIVE PROCESSING SERVER
ST12
COOPERATIVE PROCESSING SERVER REQUESTS IMAGE READING APPARATUS TO EXECUTE FIRST SERVICE PPROCESS
ST13
COOPERATIVE PROCESSING SERVER REQUESTS IMAGE PROCESSING APPARATUS TO EXECUTE SECOND SERVICE PROCESS
ST14
COOPERATIVE PROCESSING SERVER REQUESTS DOCUMENT MANAGEMENT SERVER TO EXECUTE THIRD SERVICE PROCESS
ST15
COOPERATIVE PROCESSING SERVER INFORMS CLIENT TERMINAL OF COMPLETION OF COOPERATIVE PROCESS
ST16
END

FIG. 9

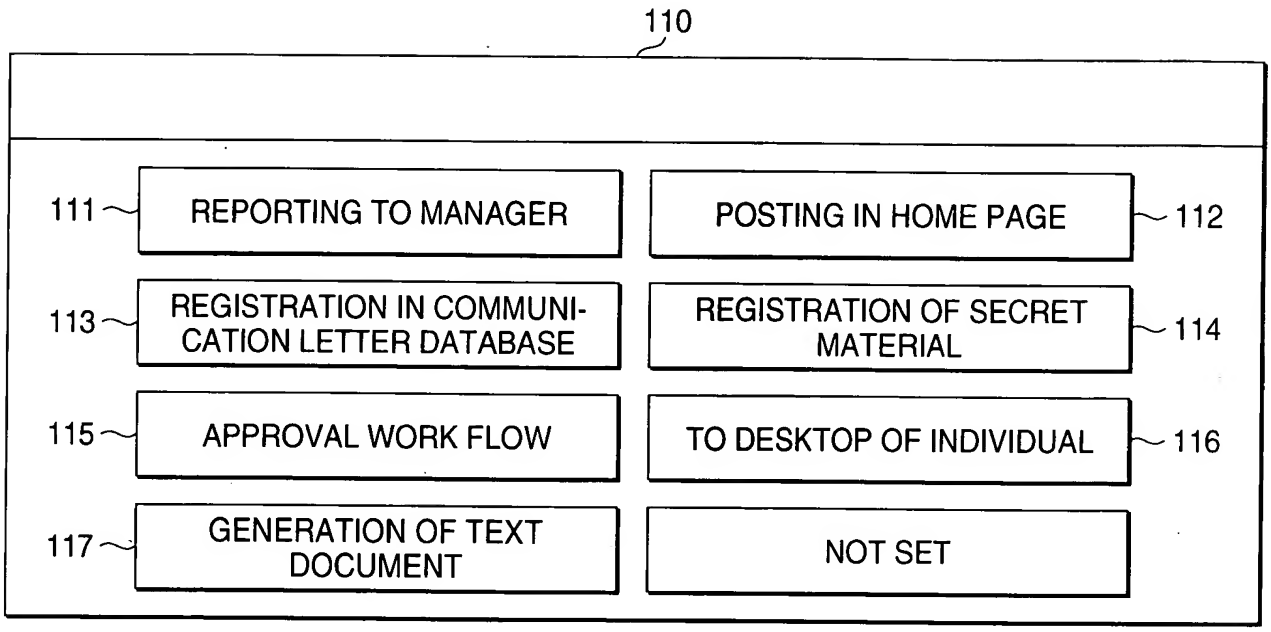
110
111
REPORTING TO MANAGER
POSTING IN HOME PAGE
112
113
REGISTRATION IN COMMUNI-CATION LETTER DATABASE
REGISTRATION OF SECRET MATERIAL
114
115
APPROVAL WORK FLOW
TO DESKTOP OF INDIVIDUAL
116
117
GENERATION OF TEXT DOCUMENT
NOT SET

FIG. 10

```
< ! - INSTRUCTION DATA AT START - - >
< Flow id = "0123456789" >
        < exec >
                < service name = "SCAN" >
                        < param name = "RESOLUTION" value = "300" / >
                < / service >
                < service name = "OCR" >
                        < param name = "POLICY" value = "SPEED PRIORITY" / >
                < / service >
                < service name = "STORAGE" >
                        < param name = "LOCATION" value = "ftp: / / server / folder" / >
                < /service >
        < / exec >
        < log >
        < / log >
< / Flow >
```

FIG. 11

```
< ! - INSTRUCTION DATA AFTER END OF FIRST SERVICE - - >
< Flow id = "0123456789" >
        < exec >
                < service name = "OCR" >
                        < param name = "POLICY" value = "SPEED PRIORITY" / >
                < / service >
                < service name = "STORAGE" >
                        < param name = "LOCATION" value = "ftp: / / server / folder" / >
                < / service >
        < / exec >
        < log >
                < service name = "SCAN" >
                        < result value = "SUCCESS" / >
                < / service >
        < / log >
< / Flow >
```

FIG. 12

```
< ! - NEW INSTRUCTION DATA GENERATED AFTER FAILING IN PERFORM IN SECOND SERVICE - - >
< Flow type = "once" reserved-id = "0123456789" >
        < exec >
                < service name = "OCR" >
                        < param name = "POLICY" value = "SPEED PRIORITY" / >
                < / service >
                < service name = "STORAGE" >
                        < param name = "LOCATION" value = "ftp: / / server / folder" / >
                < / service >
        < / exec >
        < document >
                < location type = "temporary" / >
        < / document >
        < log >
                < Flow id = "0123456789" >
                        < exec >
                                < service name = "STORAGE" >
                                        < param name = "LOCATION" value = "ftp: / / server / folder" / >
                                < /service >
                        < / exec >
                        < log >
                                < service name = "SCAN" >
                                        < result value = "SUCCESS" / >
                                < / service >
                                < service name = "OCR" >
                                        < result value = "TIME-OUT ERROR" / >
                                < / service >
                        < / log >
                < / Flow >
        < / log >
< / Flow >
```

FIG. 13

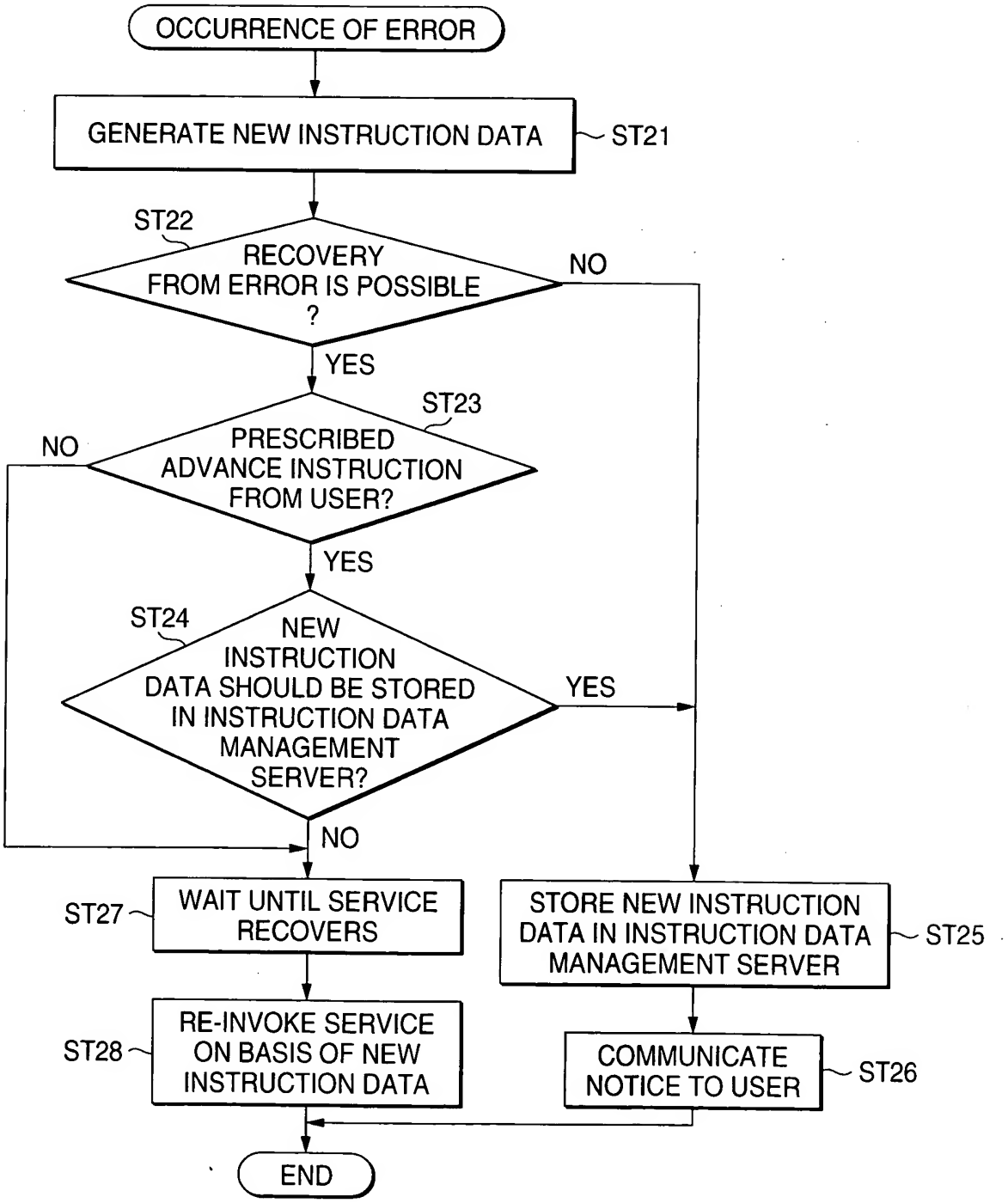
OCCURRENCE OF ERROR
GENERATE NEW INSTRUCTION DATA
ST21
ST22
RECOVERY FROM ERROR IS POSSIBLE ?
NO
YES
ST23
PRESCRIBED ADVANCE INSTRUCTION FROM USER?
NO
YES
ST24
NEW INSTRUCTION DATA SHOULD BE STORED IN INSTRUCTION DATA MANAGEMENT SERVER?
YES
NO
ST27
WAIT UNTIL SERVICE RECOVERS
STORE NEW INSTRUCTION DATA IN INSTRUCTION DATA MANAGEMENT SERVER
ST25
ST28
RE-INVOKE SERVICE ON BASIS OF NEW INSTRUCTION DATA
COMMUNICATE NOTICE TO USER
ST26
END

FIG. 14

```
< ! - INSTRUCTION DATA WITH SUBSTITUTIVE CONDITION - - >
< Flow >
        < exec >
                < service name = "FORMAT CONVERSION" >
                        < param name = "FORMAT" value = "PDF" / >
                        < substitutive-condition name = "USE FEE" value = "100YEN OF LESS" / >
                < /service >
        < / exec >
        < log >
        < / log >
< / Flow >
```

FIG. 15

```
< ! - INSTRUCTION DATA WITH POSIBILITY OF RESTART - - >
< Flow >
        < exec >
                < service name = "FORMAT CONVERSION" >
                        < param name = "FORMAT" type = "PDF" / >
                        < restartable value = "false" / >
                < /service >
        < / exec >
        < log >
        < / log >
< / Flow >
```

FIG. 16

```
< ! - INSTRUCTION DATA WITH SUBSTITUTIVE CONDITION AND POSSIBILITY OF START - - >
< Flow >
        < exec >
                < service name = "FORMAT CONVERSION" >
                        < param name = "FORMAT" value = "PDF" / >
                        < substitutive-condition name = "USE FEE" value = "100YEN OF LESS" / >
                        < restartable value = "false" / >
                < /service >
        < / exec >
        < log >
        < / log >
< / Flow >
```

FIG. 17

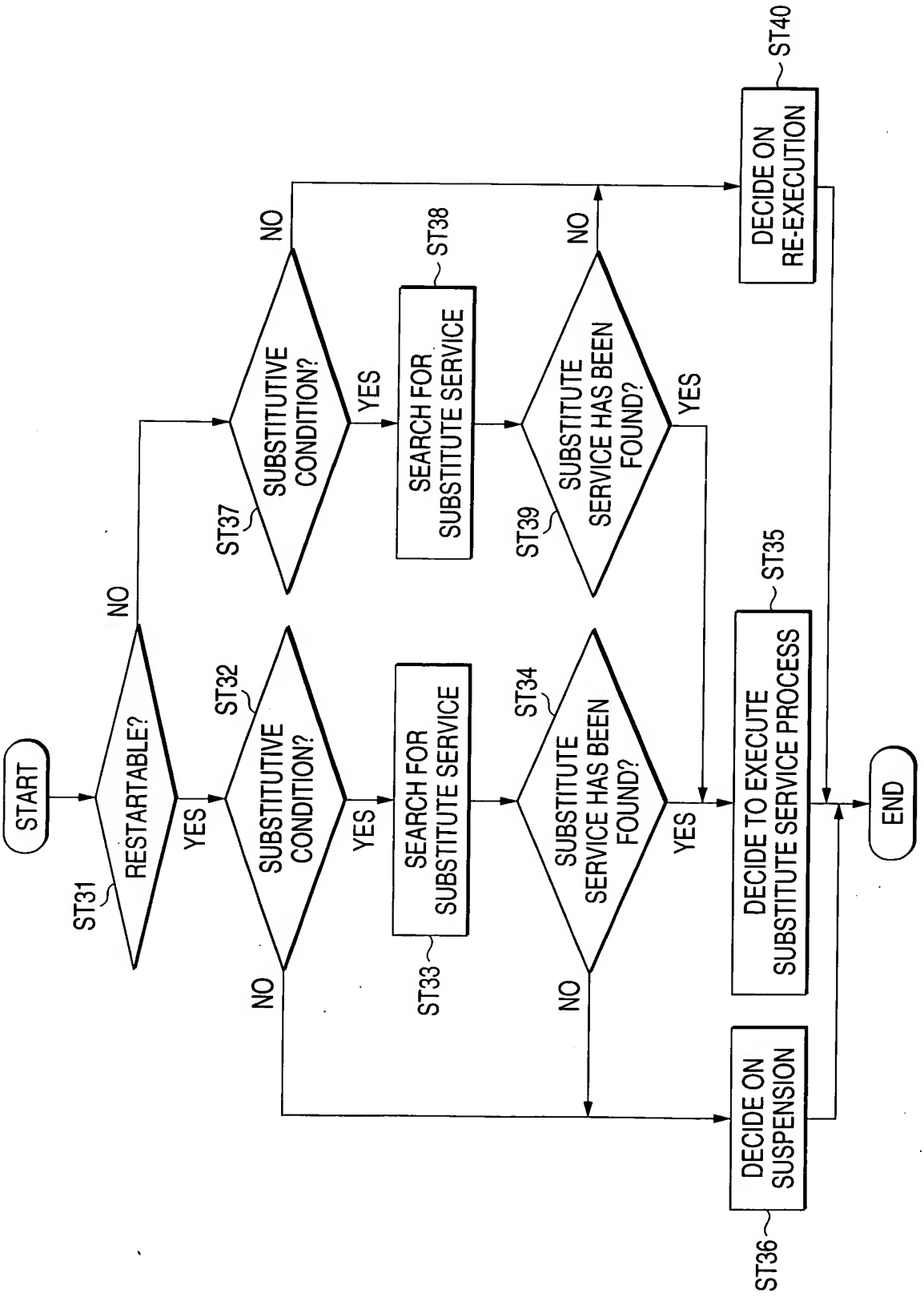
START
ST31
RESTARTABLE?
YES
NO
ST32
SUBSTITUTIVE CONDITION?
YES
NO
ST33
SEARCH FOR SUBSTITUTE SERVICE
ST34
SUBSTITUTE SERVICE HAS BEEN FOUND?
YES
NO
ST35
DECIDE TO EXECUTE SUBSTITUTE SERVICE PROCESS
ST36
DECIDE ON SUSPENSION
ST37
SUBSTITUTIVE CONDITION?
YES
NO
ST38
SEARCH FOR SUBSTITUTE SERVICE
ST39
SUBSTITUTE SERVICE HAS BEEN FOUND?
YES
NO
ST40
DECIDE ON RE-EXECUTION
END

FIG. 18

SUBSTITUTE CONDITION / RESTARTABLE	PRESENT		ABSENT
	SUBSTITUTE SERVICE IS FOUND BY SERARCH	NO SUBSTITUTE SERVICE IS FOUND BY SERARCH	
TRUE	SUBSTITUTE SERVICE	SUBSTITUTE SERVICE → SUSPENSION	SUSPENSION
FALSE	SUBSTITUTE SERVICE	SUBSTITUTE SERVICE → RE-EXECUTION	RE-EXECUTION